

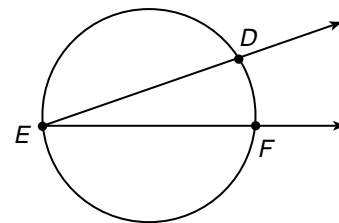
Study Guide

Student Edition
Pages 466–473**Inscribed Angles**

An **inscribed angle** of a circle is an angle whose vertex is on the circle and whose sides contain chords of the circle.

We say that $\angle DEF$ intercepts \widehat{DF} . The following theorems involve inscribed angles.

- If an angle is inscribed in a circle, then the measure of the angle equals one-half the measure of its intercepted arc.
- If two inscribed angles of a circle or congruent circles intercept congruent arcs or the same arc, then the angles are congruent.
- If an inscribed angle of a circle intercepts a semicircle, then the angle is a right angle.
- If a quadrilateral is inscribed in a circle, then its opposite angles are supplementary.



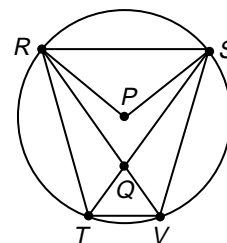
Example: In the circle above, find $m\angle DEF$ if $m\widehat{DF} = 28$.
Since $\angle DEF$ is an inscribed angle,
 $m\angle DEF = \frac{1}{2} m\widehat{DF} = \frac{1}{2} (28)$ or 14.

In $\odot P$, $\widehat{RS} \parallel \widehat{TV}$.

1. Name the intercepted arc for $\angle RTS$.

2. Name an inscribed angle.

3. Name a central angle.



In $\odot P$, $m\widehat{SV} = 86$ and $m\angle RPS = 110$. Find each measure.

4. $m\angle PRS$

5. $m\widehat{RT}$

6. $m\angle RVT$

7. $m\angle SVT$

8. $m\angle TQV$

9. $m\angle RQT$

10. $m\angle QRT$

11. $m\widehat{RS}$